

In the Specification:

Please delete paragraph [0005] on page 2 the specification and replace it with the replacement paragraph, marked to show the changes made, set forth below.

However, aluminum and aluminum alloys are susceptible to detrimental increases in contact resistances during high temperature processing. Another problem associated with the use of aluminum and aluminum alloys in integrated circuits is electromigration, which becomes a more serious concern as the level of integration and the density of components increase. The higher number of circuit components in very large-scale integration ("VLSI"), ultra large-scale integration[[],] ("ULSI"), and even higher densities, requires the use of conductive interconnects with smaller cross sections. This causes higher electrical resistance in the interconnect and increased heat generation. Accordingly, as integrated circuit patterning schemes continue to miniaturize to submicron dimensions, aluminum based metallurgies have become increasingly marginal for handling the increased circuit speed and current density requirements. Materials having higher conductivity than aluminum or its alloys would be advantageous for use as interconnects. Hence, the escalating requirements for high density and performance associated with VLSI, ULSI and beyond require responsive changes in multilevel interconnection technology.

Please delete paragraph [0018] on page 6 of the specification and replace it with the replacement paragraph, marked to show the changes made, set forth below.

Some embodiments of the present invention[[],] include corrosion inhibitors such as benzotriazole, 2,4-pentadione dioxime (which may also be referred to as 2,4-pentanedione dioxime), and/or 1,6-dioxaspiro[4,4] nonane 2,7-dione. Some embodiments of the present invention also include a free radical inhibitor, advantageously hydrazine or one or more hydrazine salts (for example, nitrate, sulfate, chloride, among others). Colloidal silica and milled alumina are used as abrasive components ~~pursant~~ pursuant to some embodiments of the present invention.

Please delete paragraph [0020] on page 8 of the specification and replace it with the replacement paragraph, marked to show the changes made, set forth below.

In some embodiments, the present invention provides a phase-one or first chemical mechanical planarization slurry that is able to selectively planarize the copper portion of a copper and tantalum and/or tantalum nitride layer. In some embodiments of the present invention, the phase-one or first chemical mechanical planarization slurry includes an oxidizer, one or more hydroxylamine compounds and at least one abrasive. The chemical mechanical planarization slurry or composition may comprise sufficient acid such that the pH of the composition is in a range from approximately 2.0 to approximately 5.0.

Please delete paragraph [0038] on page 13 of the specification and replace it with the replacement paragraph, marked to show the changes made, set forth below.

BTA typically forms a ~~mono-layer~~ monolayer in the form of a cover salt, i.e., a copper reaction product. The cover salt is substantially insoluble and thus, makes the copper basically insoluble at its surface. The cover salt can be removed under extreme chemical conditions that include the use of strong acids or bases. The cover salt can also be physically removed by the mechanically abrasive component of the CMP process. However, the cover salt reforms and blocks the removal of copper from the surface in the absence of the CMP process. Thus, the presence of BTA and other Insoluble Complexing Agents from blocking compounds and hinder the copper corrosion or dissolution from the surface.

Please delete paragraph [0054] on page 20 of the specification and replace it with the replacement paragraph, marked to show the changes made, set forth below.

In one embodiment, Abrasive A can be of the type which is manufactured by Dupont, ~~and~~ sold under the name[[,]] DP 106, and further processed (milled and filtered) by EKC Technology, Inc. and sold thereby

under the name[[,]] MicroPlanar™ CMP9000™. A Material Safety Data Sheet for this product is attached hereto (Attachment A) and incorporated herein in its entirety by this reference. The colloidal silica, in this example, has a particle size having a range between about 20 and 150 nanometers and includes an average particle size having a range between about 71 to 73 nanometers.

Please delete paragraph [0081] on page 29 of the specification and replace it with the replacement paragraph, marked to show the changes made, set forth below.

The slurry composition has a preferred pH range from about 2.5 to about 3.2.

Please delete paragraph [0088] on page 31 of the specification and replace it with the replacement paragraph, marked to show the changes made, set forth below.

Composition concentrations, for one example, are shown in the Table 7 and it should be noted that the concentration of, *inter alia*, the Insoluble Complexing Agent of the present invention may be changed to alter the resultant slurry. The concentration of Insoluble Complexing Agent ~~1,6-Dioxaspirol [4,4] nonane 2,7-dione~~ 1,6-dioxaspirol [4,4] nonane 2,7-dione used for etching tests was from about 0.01% to about 0.2 % by weight. As used for CMP, the concentration was from about 0.05% to about 0.1%.

In Table 9, on page 37 of the specification, in the line directly below the text "CMP Process (A)", in the line directly below the text "CMP Process (B)", and in the line directly below the text "CMP Process (C)", please delete the text and replace it with the replacement text, marked to show the changes made, set forth below.

~~s/pp/ts/ss/sf~~ s/pp/ts/ss